

RESPONSE TO OFFICE ACTION
DATED JUNE 15, 2007

Appln. No. 10/630,490

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REMARKS

This is in response to the Office Action dated June 15, 2007. Reconsideration is respectfully requested.

Status of Claims

Claims 1-9, 26-36, 48 and 49 are pending and all are rejected. Claim 2 is rejected under 35 USC 112 as indefinite. Claims 1-9, 26-36, 48 and 49 are rejected as anticipated by U.S. Patent Application Publication No. 2001/0048899 to Marouiss et al.

The Traversal

Applicants respectfully traverse the rejections, contending that: (1) there is no indefiniteness with respect to the disclosure or claiming of the touch probes; and (2) the cited reference, Marouiss et al, fails to meet the criterion necessary to support a rejection of the claims as anticipated. Applicants' position is explained in the arguments presented below.

Rejections as to Indefiniteness

Claim 2 is rejected as indefinite, the Examiner questioning what type of apparatus is intended by the claimed touch probe. Applicants amended Claim 2 in a reply to the previous action to clearly define the touch system for positioning the substrate as comprising "at least two opposing touch probes". The amendment also recites the positions of the touch probes on the claimed apparatus. The touch probe itself is defined expressly in the application on page 13 beginning at line 26:

"A touch system is employed that usually comprises at least two opposing touch probes. One of the probes is an upwardly pointing

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probe and is affixed to a supporting member of the apparatus, usually, adjacent to the substrate mount and, more usually, on the same supporting member to which the substrate mount is affixed. The other of the touch probes is a downwardly pointing probe and is affixed to a frame member such as an arm that carries the dispensing device. The probes are generally constructed from any material suitable for such probes. The shape and dimensions of the probe are not critical. Usually, the probes are shaped in the form of a rod or the like. The length of the probes and the thickness of the probes are such as to accomplish the desired function of the touch probes. The probes are linked by means of appropriate circuitry to a computer, which assists in adjusting the position and orientation of the dispensing device relative to the substrate mount to maintain a predetermined distance between the nozzles of the dispensing device and the surface of a substrate on the substrate mount."

Operation of the claimed apparatus using the touch probes for calibration purposes is further described on page 14, lines 10-26.

The application clearly defines the type of apparatus intended by the claimed touch probe, i.e., by way of example, the application discloses a touch probe comprising an upwardly pointing rod affixed to a supporting member of the apparatus and a touch probe comprising a downwardly pointing rod affixed to a frame member such as an arm that carries the dispensing device. Applicants contend that the information provided in the description clearly defines the construction, position and operation of the touch probes and the touch system, and that one of ordinary skill in the art would be able to construct and use the apparatus as recited in the claims based upon this description.

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In view of the information provided in the description and the claims describing and reciting the touch probes, applicants request that the Examiner withdraw the rejection of Claim 2 on the basis of indefiniteness.

Rejections as to Anticipation

Claim 1 is rejected as anticipated by Marouiss et al. Claim 1 as amended recites, in relevant part, "a first optical system for positioning said substrate mount along said y-axis and a second optical system for positioning said dispensing device along said x-axis". Such a system is not disclosed in Marouiss et al, the Examiner's remarks to the contrary notwithstanding.

Paragraphs 0268 to 0284 of Marouiss et al, cited by the Examiner, do not disclose an optical system that is used to position a substrate mount, let alone a system which uses two optical systems for positioning, as recited in Claim 1. The optical system described beginning at paragraph 0268 is part of the analysis module of the integrated processing system disclosed in the reference and is for analyzing samples. There is no teaching of any use of the optical system described in those paragraphs for positioning a substrate mount or any other component of the apparatus. This evaluation is further confirmed by a review of Figures 50-53, which clearly depict the analysis function of the optical system cited by the Examiner.

Marouiss et al does teach, at paragraph 0228, determining sample positional information by using an imaging device such as a camera (see also Figure 38), but there is no teaching therein of using a first optical system for positioning a substrate mount along one axis and a second optical system for

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positioning a dispensing device along another axis as recited in Claim 1. Paragraph 0228 of Marouiss et al merely teaches that cameras and other devices may be used to ascertain the position of samples which may be used by the various modules of the apparatus.

The use of multiple optical systems is no mere duplication of components. Applicants have developed this aspect of the invention to achieve a desired level of accuracy, as explained on page 11, lines 18-28.

To anticipate a claim, the reference must teach every element of the claim. Applicants contend that Claim 1 is not anticipated by Marouiss et al because this reference fails to teach an apparatus having first and second optical systems for positioning different components of the apparatus relatively to one another as recited in Claim 1.

Claim 1 also recites that the apparatus comprises a "dispensing device...adapted for...rotation about a central axis of the substrate mount" Contrary to the Examiner's assertion, Marouiss et al fails to teach this claim element. Paragraph 0218 teaches a dispensing device 3902 (see Figure 38) that is rotatable about a pivot 3916 which is positioned at one end of the device and offset from the center of the sample holder 3906. Claim 1 specifically recites that the dispensing device is adapted for rotation about a central axis of the substrate mount. Again, Marouiss et al fails to teach an element of Claim 1 and, therefore, cannot support a rejection of the claim on the basis of anticipation.

Claims 2-9 and 48 depend, either directly or indirectly, upon Claim 1 and should be allowable for the same reasons that

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Claim 1 is allowable. Furthermore, Claim 8 recites "a delivery device optical system for positioning said substrate to be within the field of view of said first optical system". This "delivery device optical system" is not taught in Marouiss et al, and therefore, Claim 8 is not anticipated by the cited reference.

Claim 26

Claim 26 is drawn to "a method for synthesizing an array of biopolymers on a surface of a substrate", and recites, in relevant part, "positioning said substrate along a y-axis using a first optical system" and "positioning said dispensing system along an x-axis using a second optical system". This recited method is not taught in Marouiss et al. First, there is no such teaching of separate optical systems associate with different components of the apparatus in Marouiss et al. Second, as shown in the arguments presented above, the reference fails to teach an apparatus having separate optical systems for positioning separate components of the apparatus and, therefore, cannot logically teach a method which the apparatus is not equipped to execute. Claim 26 is not anticipated by Marouiss et al because the reference fails to teach every element of Claim 26.

Claims 27-36 and 49 depend, either directly or indirectly, upon Claim 26 and should be allowable for the same reasons that Claim 26 is allowable.

Summary

Applicants have shown, in the arguments presented above, that Marouiss et al fails to meet the criterion necessary for anticipation because it fails to teach every element of applicants' claims. Applicants contend that the claims are

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allowable over the cite reference and request that the rejections be withdrawn and the application passed to issue.

Respectfully submitted,

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